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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/526,827

04/22/2005

Marc-Andre Theoleyre

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7590

10/17/2007

CASELLA & HESPOS
274 MADISON AVENUE
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EXAMINER

DEES, NIKKI H

ART UNIT

PAPER NUMBER

4174

MAIL DATE

DELIVERY MODE

10/17/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/526,827

Applicant(s)

THEOLEYRE, MARC-ANDRE

Examiner

Nikki H. Dees

Art Unit

4174

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 4 March 2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claim 10 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-9 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noel (6,383,540) in view of Saska et al. (5,443,650).

Art Unit: 4174

5. Noel teaches a method for the demineralization of whey. The method comprises exchanging divalent cations for protons and divalent anions for chloride ions (Claim 1).
6. Noel discloses regeneration of the mixed (cationic and anionic) bed resin, followed by the regeneration of the cationic bed resin using the effluent from the mixed bed (col. 5 lines 16-21).
7. Noel et al. are silent as to the use of an aqueous NaCl solution for the regeneration of the ion exchange resins.
8. Saska et al. teach a method for removing Ca^{2+} and Mg^{2+} from an aqueous sugar solution on a cation exchange resin where the divalent cations are replaced by the monovalent cations Na^+ and K^+ . The cation exchange resin is periodically regenerated using an aqueous NaCl solution (col. 1 lines 33-37).
9. Selection of any order of performing process steps is *prima facie* obvious in the absence of new or unexpected results (see *In re Burhans*, 154 F.2d 690, 69 USPQ 330 (CCPA 1946)). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have altered the order of the ion exchange resins in order that the solution contact the anion exchange resin prior to or simultaneous with contacting the cation exchange resin.
10. As to the regeneration of the ion-exchange resins, as with the order of performing the ion exchange steps, selection of any order of regeneration would be *prima facie* obvious over the method taught by Noel.
11. Both the method taught by Noel and the method taught by Saska are for use with aqueous solutions of food products. It would have been obvious to one of ordinary skill

Art Unit: 4174

in the art at the time the invention was made to have exchanged cations as taught by Saska et al. in the method taught by Noel in order to demineralize the aqueous solution without excessively increasing the acidity of the solution.

12. There are a multitude of commercially available anionic and cationic exchange resins. It would have been well within the ability of one of ordinary skill in the art at the time the invention was made to have selected the appropriate cationic and anionic exchange resins in order to be able to both effectively remove the desired ions from the solution and regenerate the resins with an aqueous sodium chloride solution.

13. Claims 1-9 and 11-14 are also rejected under 35 U.S.C. 103(a) as being unpatentable over Jönsson (4,159,350) in view of Saska et al. (5,443,650).

14. Jönsson teaches a method of ion exchange for desalination of whey comprising conducting the whey through an anion exchange resin and a cation exchange resin (col. 3 lines 1-3).

15. Jönsson also teaches the regular regeneration of the ion exchange resins (col. 5 lines 5-8).

16. Jönsson is silent as to the use of an aqueous NaCl solution to recharge the ion exchange resins.

17. Saska et al. teach a method for removal of divalent cations as well as regeneration of the ion exchange resin as detailed above.

18. Saska et al. also teach regenerating their ion exchange resin with an aqueous solution of NaCl.

Art Unit: 4174

19. Both the method taught by Jönsson and the method taught by Saska are for use with aqueous solutions of food products. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the method comprising both anionic and cationic exchange resins taught by Jönsson with the method taught by Saska et al. using aqueous NaCl to regenerate the ion-exchange resins in order to remove the undesirable multivalent cations and multivalent anions from whey or whey permeate.

20. For purposes of examination, the examiner interprets claim 10 as a decalcification method of a whey or whey permeate.

21. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Noel (6,383,540) in view of Saska et al. (5,443,650) or Jönsson (4,159,350) in view of Saska et al. (5,443,650) as detailed above.

Claim Rejections - 35 USC § 112

22. Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

23. Claim 10 provides for the use of the method of decalcification, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it

Art Unit: 4174

merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Conclusion

24. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Durham et al. (WO 99/04903) teach a method comprising contacting an aqueous solution with divalent ions with an ion exchange resin including monovalent ions. They apply their method to a variety of food process streams, including dairy processing.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nikki H. Dees whose telephone number is (571) 270-3435. The examiner can normally be reached on Monday-Friday 7:30-5:00 EST (first Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, D. Lawrence Tarazano can be reached on (571) 272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 4174

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

D. LAWRENCE TARAZANO
PRIMARY EXAMINER

Nikki H. Dees
Examiner
Art Unit 4174